

REMARKS/ARGUMENTS

Claims 1-3, 5, 6, 8, 9, 15, 20-24, 28-30, 48-55, 57-59, 64 and 67-74 are pending in the application. Non-elected Claims 4, 7, 10-14, 16-19, 25-27, 31-47, 56, 60-63, 65 and 66 have been withdrawn by the Examiner. In response to the Examiner's objection regarding Claim 47, the present Amendment indicates that Claim 47 has been withdrawn.

Independent Claim 1 has been amended to more clearly recite a composite panel having at least one glass sheet having a peripheral edge and at least one polymeric layer mounted in a frame, and at least one retainer extending in a direction substantially parallel with a plane of the at least one glass sheet from the frame inside the peripheral edge of the at least one glass sheet and at least partially embedded in the polymeric layer inside the peripheral edge of the at least one glass sheet. Basis for the amended claim language is provided in the specification, for example, in paragraph [0052] and Figs. 2, 2a-c and 3-6. No issue of new matter is presented.

Independent Claim 57 has been amended to more clearly recite a blast resistant assembly comprising an outer frame, an inner frame having opposing peripheral edges pivotally connected to the outer frame at the opposing peripheral edges of the inner frame, a composite panel having at least one glass sheet having a peripheral edge and at least one polymeric layer, wherein the composite panel is mounted in the inner frame, and at least one retainer for securing the composite panel within the inner frame when a force is applied to the composite panel, wherein the at least one retainer comprises a base connected to the inner frame and an extension connected to the base which extends inside the peripheral edge of the at least one glass sheet and is at least partially embedded in the at least one polymeric layer inside the peripheral edge of the at least one glass sheet. Independent Claim 57 has thus been amended to include language similar to independent Claim 48, namely, that the inner frame has opposing peripheral edges pivotally connected to the outer frame at the opposing peripheral edges of the inner frame.

Claims 1-3, 5, 6, 8, 9, 15, 20-24, 29 and 30 stand rejected under 35 U.S.C. § 103(a) as allegedly being anticipated by Lewkowitz U.S. 2003/0188498 in view of Downes U.S. 2,576,392. According to the Office Action, Lewkowitz '498 discloses in Fig. 3 a blast resistant assembly including a frame (37), a composite panel having at least one glass sheet (27, 28) and at least one polymeric layer (30) mounted in the frame (37), and at least one retainer (42, 82, 89) extending from the frame (37) and at least partially embedded in the polymeric layer (30). The

Examiner states that the retainer (82) is fastened or embedded through the polymeric layer (30) into the frame (37).

The Office Action acknowledges that Lewkowitz '498 does not disclose that the retainer is fastened inside the peripheral edge of the at least one glass sheet. The Office Action relies on Downes '392 as teaching a laminated window with a retainer that is fastened inside the peripheral edge of the glass sheet (Fig. 7). According to the Office Action, it would have been obvious to one having ordinary skill in the art to utilize the idea of Downes '392 to fasten the glass and retainer of Lewkowitz '498 in such a way that the retainer (216 of Downes '392) is embedded in the polymeric layer (middle layer 220 of Downes '392) inside the peripheral edge of the outer sheets (223 and 224) in order for a more stable and secure connection to the frame.

It is submitted that amended independent Claim 1, as well as the claims that depend therefrom, are patentable over Lewkowitz '498 and Downes '392.

As shown in Fig. 3 of Lewkowitz '498, the polymeric sheet 30 extends from the peripheral edges of the glass sheets 27 and 28, and is secured to the frame 37 by a molding element 42 and mechanical fasteners 82 which secure the extended periphery 32 of the polymeric sheet 30 to the frame 37. In contrast, independent Claim 1 recites that the retainer must extend in a direction substantially parallel with a plane of the at least one glass sheet from the frame inside the peripheral edge of the at least one glass sheet and at least partially embedded in the polymeric layer inside the peripheral edge of the at least one glass sheet. No such structure is taught or suggested by Lewkowitz '498 alone, or in combination with Downes '392.

It is submitted that one skilled in the art would not combine the teachings of Lewkowitz '498 and Downes '392 as suggested in the Office Action, namely, to move the mechanical fasteners 82 disclosed by Lewkowitz '498 from their positions outside the periphery of the glass sheets 27 and 28 (see Fig. 3) to a location inside the periphery of the glass sheets 27 and 28. Lewkowitz '498 explicitly teaches that the glass pane 22 is resiliently mounted in its frame by means of the flexible plastic layer 32 that protrudes from the edges of the glass panes 27 and 28 (see paragraphs [0035], [0046], [0048], [0053], [0065], [0072] and [0075]). It would be contrary to the teachings of Lewkowitz '498 to move the mechanical fasteners 82 from their positions outside the periphery of the glass panes 27 and 28 as shown in Fig. 3, to positions inside the periphery of the glass panes as suggested in the Office Action. To do so would require

drilling or otherwise forming holes through the glass panes 27 and 28 which, as understood by those skilled in the art, would degrade the structural integrity of the glass panes and could cause cracking of the glass. Moreover, to move the mechanical fasteners 82 of Lewkowitz '498 to a position inside the periphery of the glass panes 27 and 28 as proposed by the Office Action would be contrary to the teachings of the reference, which requires a resilient connection of the window pane in the frame by means of mechanical fasteners provided through the portion of the flexible plastic sheet 32 that extends beyond the periphery of the glass panes 27 and 28. Accordingly, one skilled in the art would not modify the structure of Lewkowitz '498 as proposed in the Office Action.

Furthermore, it is noted that Downes '392 does not disclose retainers provided inside the peripheral edge of glass sheets. The Office Action refers to Fig. 7 of Downes '392 in which mechanical fasteners 216 extend through, and are provided inside the periphery of, sheets 223 and 224. However, as disclosed at column 4, lines 57-72 of Downes '392, the outer plates 223 and 224 are not glass but are rather resinous materials such as methyl methacrylate resin. Other embodiments disclosed by Downes '392 (Figs. 2, 3, 5 and 6) include one or more glass sheets, but in these glass sheet embodiments the mechanical fasteners (16, 116) never pass through the glass sheets inside their peripheries. Thus, Downes '392 teaches away from positioning retainers or fasteners inside the peripheries of glass sheets, and only when the glass is replaced with plastic outer sheets is it disclosed that the fasteners may be provided inside the periphery of such plastic sheets. This is further evidence that one skilled in the art would not put mechanical fasteners through glass sheets inside their peripheral edges when mounting such sheets into frames, and that the proposed modification of Lewkowitz '498 as suggested in the Office Action would not be obvious.

Accordingly, Claim 1, and the claims that depend therefrom, are patentable over Lewkowitz '498 and Downes '392.

Claims 48-51, 55, 57-59, 64 and 67-71 stand rejected under 35 U.S.C. § 103(a) as allegedly being unpatentable over Lewkowitz '498 in view of Downes '392 and in further view of Bayley '791. The Office Action acknowledges that Lewkowitz '498 and Downes '392 do not teach an inner frame pivotally mounted to an outer frame. According to the Office Action, Bayley '791 discloses in Fig. 1 a window assembly with an inner frame (20) pivotally connected

to an outer frame (22). According to the Office Action, it would have been obvious to one skilled in the art to modify the blast resistant assembly of Lewkowicz '498 with the inner and outer frame structure of Bayley '791 for ventilation purposes.

It is submitted that independent Claims 48 and 57, and the claims that depend therefrom, are patentable over Lewkowicz '498, Downes '392 and Bayley '791.

As shown in Fig. 1 of Bayley '791, one edge of an inner window frame member may be pivotally mounted inside an outer window frame member. The pivotal attachment at one edge of the inner window frame allows the inner window structure to pivotally open with respect to the stationary outer frame structure.

In contrast, independent Claims 48 and 57 recite that the inner frame is pivotaly connected to the outer frame at opposing peripheral edges of the inner frame. A non-limiting example of such a structure is illustrated in Fig. 13 of the present application, in which opposing peripheral side edges of the inner frame 74 are pivotally mounted to the outer frame 72, and opposing top and bottom peripheral edges of the inner frame 74 are pivotally mounted to the outer frame 72. As discussed at page 11, paragraph [0071] and shown in Fig. 21 of the specification, by providing pivotal attachment around the periphery of an inner frame member, blast resistance is improved by providing a resilient connection between the inner and outer frames which is capable of flexing when the window 20 is subjected to a blast force.

Such a pivoting attachment structure in which the inner frame is pivotaly attached at its opposing outer peripheries to the outer frame is not taught or suggested by Lewkowicz '498, Downes '392 or Bayley '791. If the window assembly of Lewkowicz '498 was modified to include the pivoting inner window section of Bayley '791 as suggested in the Office Action, such a combination would not read on the assemblies recited in Claims 48 and 57 because Bayley '791 teaches a pivoting connection along only one edge of the inner window frame that allows the inner window to open. Bayley '791 does not disclose a pivotal connection at the opposite peripheral edge of the inner frame, and putting another pivoting connection on the opposite peripheral edge of the inner window frame of Bayley '791 would destroy the ability of Bayley's inner window to open.

The assemblies recited in Claims 48 and 57 have pivotal connections on opposite peripheral edges of the inner frame. The claimed structure provides advantages when subjected

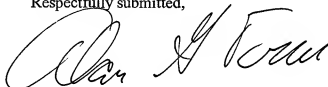
to blast forces, and does not read on the structure of Bayley '791 which must only have one edge of the inner frame pivotally mounted on the outer frame in order to allow the inner window to open with respect to the surrounding window and frame.

Accordingly, independent Claims 48 and 57, and the claims that depend therefrom, are patentable over Lewkowitz '498, Downes '392 and Bayley '791.

In view of the foregoing amendments and remarks, it is submitted that Claims 1-3, 5, 6, 8, 9, 15, 20-24, 28-30, 48-55, 57-59, 64 and 67-74 are patentable over the prior art of record. Accordingly, an early Notice of Allowance of this application is respectfully requested.

In the event that any outstanding matters remain in connection with this application, the Examiner is invited to telephone the undersigned at (412) 263-4340 to discuss such matters.

Respectfully submitted,

A handwritten signature in dark ink, appearing to read 'Alan G. Towner', is written over the typed name.

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